



Fig. 9: Decision tree to define a indicator value for regulation success per environmental problem

- Fig. 9 provides a scheme to derive an indicator for what we call the *regulatory success*. The uneven importance given to this indicator by the three cultural perspectives is reflected in the parameters  $s1$  and  $s2$ . In the case of environmental carcinogenesis, the problem is well known and partly understood. Many regulations limit the emissions or use of carcinogenic substances, and the emissions of substances such as benzene, poly-aromatic hydrocarbons or heavy metals are indeed declining in the industrial countries. However, the mentioned long-term target will not be met by following the present regulations, partly because the aim is very ambitious and partly because of the high persistency of some carcinogenics and the long latency time between today's exposure and the expected effects. The indicator value  $s1$  is therefore chosen following the diagram in Fig. 9, which is presently translated into adjustment factors of 0.8 for both the egalitarian and the hierarchic perspectives and of 0.9 for individualists (lower importance of long-term planning).

The exact composition of the manageability factor is provided by Equations (2) and (3). Hofstetter (1998:145) provides first estimates for the parameters. However, empirical work with decision makers will be necessary to validate them.

$$m_{p,c} = R_{p,c} \cdot X_{p,c}^{g_c} \cdot S_{p,c} = \quad (2)$$

$$m_{p,c} = (1 - \text{relative reduction of } D_p \text{ at } E_c \cdot f) \cdot \left( \frac{N_p}{T_p} \right)^{g_c} \quad (3)$$

with $m_{p,c}$	manageability factor [-]
$R_{p,c}$	indicator for the ease of damage reduction [-]
$X_{p,c}$	indicator for the excess of long-term policy targets[-]
$S_{p,c}$	indicator for the success of regulation [-]
$D_p$	outcome of the damage assessment for human or ecological health measured in the respective damage units
$E_c$	additional unit effort in financial and legislative terms
$f$	consideration factor dependent on the modelling assumptions in the damage assessment
$N_p$	impact due to present environmental interventions contributing to environmental problem $p$
$T_p$	target level for the environmental problem $p$
$g_c$	cultural perspective dependent exponent
$s1_c, s2_c$	parameters for the regulatory success factor
$p$	index for environmental problem
$c$	index for the three cultural perspectives ('individualists', 'egalitarians' and 'hierarchists')

#### LCA-Online Editions: Three modifications are available:

1. The **LCA databank** of published articles which can be called up with the aid of keywords and has been active since 1998 (<http://www.scientificjournals.com/db>). Parallel to the preparations for printing, the databank is actualized.

2. The **LCA Online-First forum** with the available articles which have already been accepted for publication but not yet published in the printed journal (<http://www.scientificjournals.com/onlinefirst>). Online-First is updated immediately following the final acceptance of the articles and the completion of corrections by the author.

3. The **LCA Web Editions** provide access to the articles which have been published since 1998 by way of the Table of Contents of every individual new issue (<http://www.scientificjournals.com/db/webEditions.htm>). This online version is identical with the printed issue. Parallel to the preparations for printing, the web editions are actualized.

The three Online Editions (up to and including the abstracts) are available to anyone who is interested. A **password** (PW) must be entered as soon as the full article is to be called up. The PW is the six-digit order number.

**Library access** is available via the IP address.

Please also note the **LCA Homepage** (<http://www.scientificjournals.com/lca>). This site is accessible to anyone and provides full information about the journal itself, as well as about new trends and developments. In addition, the Editorials, Letters, Books/Reviews, Conference Reports are available here. This site also undergoes continuous actualizations.